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Apr 28, 1994

DERWENT-ACC-NO: 1994-145298

DERWENT-WEEK: 199830

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TITLE: Titania-alumina or titania-silica mix oxide, prodn. and use - in prodn. of catalyst, catalyst support, photocatalyst, ceramics, car lacquer or cosmetics and as thermal stabiliser in silicone rubber

INVENTOR: HARTMANN, W; KERNER, D ; MANGOLD, H

PATENT-ASSIGNEE:

ASSIGNEE

CODE

DEGUSSA AG

DEGS

PRIORITY-DATA: 1992DE-4235996 (October 24, 1992)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 4235996 A1	April 28, 1994		005	C01G023/04
US 5762914 A	June 9, 1998		000	A61K007/42
EP 595078 A2	May 4, 1994	G	006	C01G023/00
JP 06191848 A	July 12, 1994		004	C01G023/04
EP 595078 A3	December 21, 1994		000	C01G023/04
US 5451390 A	September 19, 1995		005	C01G023/047
JP 2503370 B2	June 5, 1996		004	C01G023/04
EP 595078 B1	April 16, 1997	G	005	C01G023/00
DE 59306172 G	May 22, 1997		000	C01G023/00
US 5672330 A	September 30, 1997		005	C01G023/047

DESIGNATED-STATES: BE DE GB BE DE GB

CITED-DOCUMENTS:1.Jnl.Ref; EP 241647 ; FR 2339569 ; GB 707560 ; SU 1044599 ;
2.Jnl.Ref

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
DE 4235996A1	October 24, 1992	1992DE-4235996	
US 5762914A	October 22, 1993	1993US-0139708	Div ex
US 5762914A	April 18, 1995	1995US-0423349	Div ex
US 5762914A	August 1, 1996	1996US-0690918	
US 5762914A		US 5451390	Div ex
EP 595078A2	October 6, 1993	1993EP-0116133	
JP 06191848A	October 22, 1993	1993JP-0264899	
EP 595078A3	October 6, 1993	1993EP-0116133	
US 5451390A	October 22, 1993	1993US-0139708	
JP 2503370B2	October 22, 1993	1993JP-0264899	
JP 2503370B2		JP 6191848	Previous Publ.
EP 595078B1	October 6, 1993	1993EP-0116133	
DE 59306172G	October 6, 1993	1993DE-0506172	
DE 59306172G	October 6, 1993	1993EP-0116133	
DE 59306172G		EP 595078	Based on
US 5672330A	October 22, 1993	1993US-0139708	Div ex
US 5672330A	April 18, 1995	1995US-0423349	
US 5672330A		US 5451390	Div ex

INT-CL (IPC): A61K 7/00; A61K 7/42; B01J 21/06; B01J 23/00; B01J 32/00; C01B 13/22; C01B 33/12; C01B 33/18; C01F 7/02; C01G 23/00; C01G 23/04; C01G 23/047; C01G 23/07; C04B 35/46; C08F 4/16

ABSTRACTED-PUB-NO: DE 4235996A
BASIC-ABSTRACT:

TiO₂ mix oxide (I) with 1-30 (wt.%) Al₂O₃ or SiO₂, produced by flame hydrolysis, has a BET surface area of 10-150 m²/g.

(I) is prep'd. by vaporising anhydrous AlCl₃ or SiCl₄, transferring to the mixing chamber of a burner with an inert gas, e.g. N₂, mixing with H₂, air and gaseous TiCl₄ in the ratio giving (I) of the required compsn., burning the 4-component mixt., sepg. the solid (I) from the gaseous reaction prods. and opt. removing adhering HCl in moist air.

In an example 19 g/l AlCl₃ and 264 g/h TiCl₄ were vaporised separately at 250 deg.C and 200 deg.C respectively, transferred to the mixing chamber with N₂, mixed with 236 l/h H₂ and 1643 l/h air and burnt. After cooling to ca. 110 deg. C, the mix oxide was filtered and freed from adhering chloride by treatment with moist air at 500-700 deg.C. The prod. contained 6/1% Al₂O₃; and had a BET surface area of 98 m²/g; tamped density of 159 g/l; calcination loss of 1.6%; and chloride content of 0.6%.

USE/ADVANTAGE - (I) is used in the prodn. of catalysts, catalyst supports, photocatalysts, ceramics, car lacquers and cosmetics (esp. sun screening agents) and as thermal stabiliser in silicone rubber (claimed). The surface area of (I) has high thermal stability and (I) is finely-divided, very homogeneous and very pure, hence highly dispersible.

ABSTRACTED-PUB-NO:

EP 595078B

EQUIVALENT-ABSTRACTS:

Titanium dioxide mixed oxide prepared by flame hydrolysis with a BET surface area of 10 to 150 m²/g, which contains 1 to 30 wt.% aluminium oxide or 1 to 30 wt.% silicon dioxide as a component of the mixed oxide.

US 5451390A

Flame-hydrolytically produced TiO₂ mixed oxide has a BET surface of 10-150 m²/g and

contains: (a) 1-30 wt.% of Al₂O₃ or SiO₂; (b) balance Ti; and (c) unavoidable impurities.

Prod'n. comprises: (i) evaporating 30 wt.% or less anhydrous AlCl₃ or SiCl₄; (ii) transferring vapour together with an inert gas into the mixing chamber of a conventional burner together with H₂ air and TiCl₄ gas to form the mixed oxide; (iii) firing the mixt. in a reaction chamber at 1000-3000 deg.C; and (iv) sepg. solid prod. from gaseous reaction prods.

USE/ADVANTAGE - Used in prodn. of catalysts, catalytic carriers, photocatalyst, ceramics, automobile paints, UV absorbers in sunscreens or other cosmetics and as heat stabilisers in silicone rubbers. Oxide has high temp. resistance, is fine, very homogeneous, very pure and highly dispersible.

US 5672330A

A member of the group consisting of catalysts, catalytic carriers, photo-catalysts, automobile paints, cosmetic articles and silicone rubbers comprising a flame-hydrolytically produced titanium dioxide mixed oxide having a BET surface of 10 to 150 m²/g which contains 1-30% by weight of a member of the group consisting of aluminum oxide and silicon dioxide as a component of the mixed oxide, and a balance of the titanium dioxide and unavoidable impurities.

US 5762914A

TiO₂ mix oxide (I) with 1-30 (wt.)*Al₂O₃ or SiO₂, produced by flame hydrolysis, has a BET surface area of 10-150 m²/g.

(I) is prepd. by vaporising anhydrous AlCl₃ or SiCl₄, transferring to the mixing chamber of a burner with an inert gas, e.g. N₂, mixing with H₂, air and gaseous TiCl₄ in the ratio giving (I) of the required compsn., burning the 4-component mixt., sepg. the solid (I) from the gaseous reaction prods. and opt. removing adhering HCl in moist air.

In an example 19 g/l AlCl₃ and 264 g/h TiCl₄ were vaporised separately at 250 deg.C and 200 deg.C respectively, transferred to the mixing chamber with N₂, mixed with 236 l/h H₂ and 1643 l/h air and burnt. After cooling to ca. 110 deg. C, the mix oxide was filtered and freed from adhering chloride by treatment with moist air at 500-700 deg.C. The prod. contained 6/1% Al₂O₃; and had a BET surface area of 98 m²/g; tamped density of 159 g/l; calcination loss of 1.6%; and chloride content of 0.6%.

USE/ADVANTAGE - (I) is used in the prodn. of catalysts, catalyst supports, photocatalysts, ceramics, car lacquers and cosmetics (esp. sun screening agents) and as thermal stabiliser in silicone rubber (claimed). The surface area of (I) has high thermal stability and (I) is finely-divided, very homogeneous and very pure, hence highly dispersible.

CHOSEN-DRAWING: Dwg.0/1 Dwg.0/1 Dwg.0/2 Dwg.1/2

TITLE-TERMS: TITANIA ALUMINA TITANIA SILICA MIX OXIDE PRODUCE PRODUCE CATALYST CATALYST SUPPORT PHOTOCATALYST CERAMIC CAR LACQUER COSMETIC THERMAL STABILISED SILICONE RUBBER

DERWENT-CLASS: A60 D21 E32 E33 G02 J04 L02

CPI-CODES: A06-A00B; A08-A04A; D08-B; D09-E; E31-P05A; E35-K04; G02-A03D; J04-E03; J04-E04; L02-G;

CHEMICAL-CODES:

Chemical Indexing M3 *01*

Fragmentation Code

A422 A940 C108 C550 C730 C801 C802 C803 C804 C805

C807 M411 M720 M903 M904 M910 N480 N513 N514 Q130

Q254 Q263 Q332 Q421 Q423 Q453 Q622

Specific Compounds

01966P
Markush Compounds
199418-A4001-P 199418-A4002-P
Registry Numbers
1966P

Chemical Indexing M3 *02*

Fragmentation Code
B114 B702 B720 B831 C108 C800 C802 C803 C804 C805
C807 M411 M720 M903 M904 M910 N480 N513 Q130 Q254
Q263 Q332 Q421 Q423 Q453 Q622
Specific Compounds
01694P
Markush Compounds
199418-A4001-P
Registry Numbers
1694P

Chemical Indexing M3 *03*

Fragmentation Code
A313 A940 C108 C550 C730 C801 C802 C803 C804 C805
C807 M411 M720 M903 M904 M910 N480 N513 Q130 Q254
Q263 Q332 Q421 Q423 Q453 Q622
Specific Compounds
01544P
Markush Compounds
199418-A4002-P
Registry Numbers
1544P

UNLINKED-DERWENT-REGISTRY-NUMBERS: 1544P; 1544U ; 1694P ; 1694U ; 1966P ; 1966U

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1] 017 ; P1445*R F81 ; H0124*R Polymer Index [1.2] 017 ; ND00 ; ND03 Polymer Index [1.3] 017 ; D00 F20 Al 3A Ti 4B Tr Si 4A ; R01544 D00 F20 Al 3A O* 6A ; R01966 D00 F20 Ti 4B Tr O* 6A ; R01694 D00 F20 O* 6A Si 4A ; A999 A511 A486 ; A999 A759 ; L9999 L2379*R ; L9999 L2437*R ; A999 A771 ; L9999 L2313 ; B9999 B5276*R ; B9999 B4682 B4568 ; B9999 B5209 B5185 B4740 ; S9999 S1456*R ; B9999 B4535 ; B9999 B3418*R B3372 ; N9999 N6893 N6655 ; N9999 N6804*R N6655 ; B9999 B4842 B4831 B4740

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:

Key Serials: 0009 0069 0072 0075 0078 0138 0141 0144 0147 0150 0153 0165 0168 0171 0205 0224 0228 0229 1306 2179 2199 2202 2203 2258 2267 2394 2400 2541 2542 2572 2600 2646 2649 2651 2655 2676

Multipunch Codes: 017 03& 03- 032 05- 06- 07& 075 08& 09& 09- 10& 10- 15- 156 17& 17- 19- 20& 20- 229 24- 244 247 329 331 337 360 38- 393 402 417 420 44& 479 528 532 536 541 575 581 592 593 597

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1994-066473